Essays on Firm's Sustainability, Financial Access, and Global Value Chain Participation: Evidence from SMEs in Developing Countries

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I hereby declare that the short synopsis Title "**Essays on Firm's Sustainability, Financial Access, and Global Value Chain Participation: Evidence from SMEs in Developing Countries**" being submitted in partial fulfilment of the requirement for the degree of Doctor of Philosophy in **Economics** under **School of Behavioural and Social Studies (SBSS)** of Manav Rachna International Institute of Research & Studies, Faridabad during the academic year **2023-24.** It is a bona fide record of original work carried out under the supervision of **Dr. Durairaj Kumarasamy** and co-supervision of **Dr. Prakash Singh** and has not been submitted in full or part to any other university or institute for degree or diploma. Further, it is certified that short synopsis is plagiarism free and proof has been submitted.

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ABSTRACT

In recent years, there has been a growing interest in integrating SMEs into global value chains (GVCs) to enhance their competitiveness and sustainability. However, SMEs in developing countries face numerous challenges that hinder their participation in GVCs, including limited access to finance and inadequate sustainability practices. Using the firm-level data from the World Bank Enterprises Survey, the study assesses the present level of developing countries' SME participation in GVCs. It identifies the key barriers preventing SMEs from fully integrating into global value chains. The study will also examine the impact of access to finance on SMEs' ability to engage in GVCs and investigate the role of sustainability parameters, such as environmental practices, social responsibility, governance along with innovation, and innovative activity, in enhancing SMEs' competitiveness and attractiveness to global investors/buyers. Besides, the study will explore how sustainable business practices can help SMEs differentiate themselves in the worldwide market and meet the increasing demand for environmentally and socially responsible products.

The study will provide valuable insights for policymakers, financial institutions, and SME owners to better integrate into GVCs. Overall, this study highlights the challenges SMEs face in developing countries and proposes practical solutions to enhance their competitiveness and sustainability in the global marketplace. The proposed study will point to the contribution to the sustainable development goals that are fulfilled directly or indirectly with enhanced SMEs' integration in GVC.

Keywords: *Access to Finance, Developing Countries ESG, GVC, Innovation, SMEs, sustainability.*

JEL: *F14, F15, F23, F63, O16, Q55, Q56*

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1. Introduction

Global value chains are becoming a defining characteristic of international commerce since 1980s. Its proliferation has been a defining feature of 21st-century trade (R. E. Baldwin, 2012; Gereffi & Kaplinsky, 2001; OECD, 2013). Large firms primarily drive the GVC revolution in the pursuit of efficiency. However, with the increasing specialisation, the decentralization of tasks and business levels has also streamed to small firms. Firms increasingly participating in GVC rely on global knowledge, resources and production rather than national resources. With the increasing complexity and interconnectedness, economic activity appears to expand towards emerging and developing countries. This segregation of tasks and business operations may have opened opportunities for developing countries, especially for small and medium-sized enterprises (SMEs), to integrate into the global economy without developing a complete product of the value chain and utilising foreign expertise and learning by doing (Hausmann, 2014).

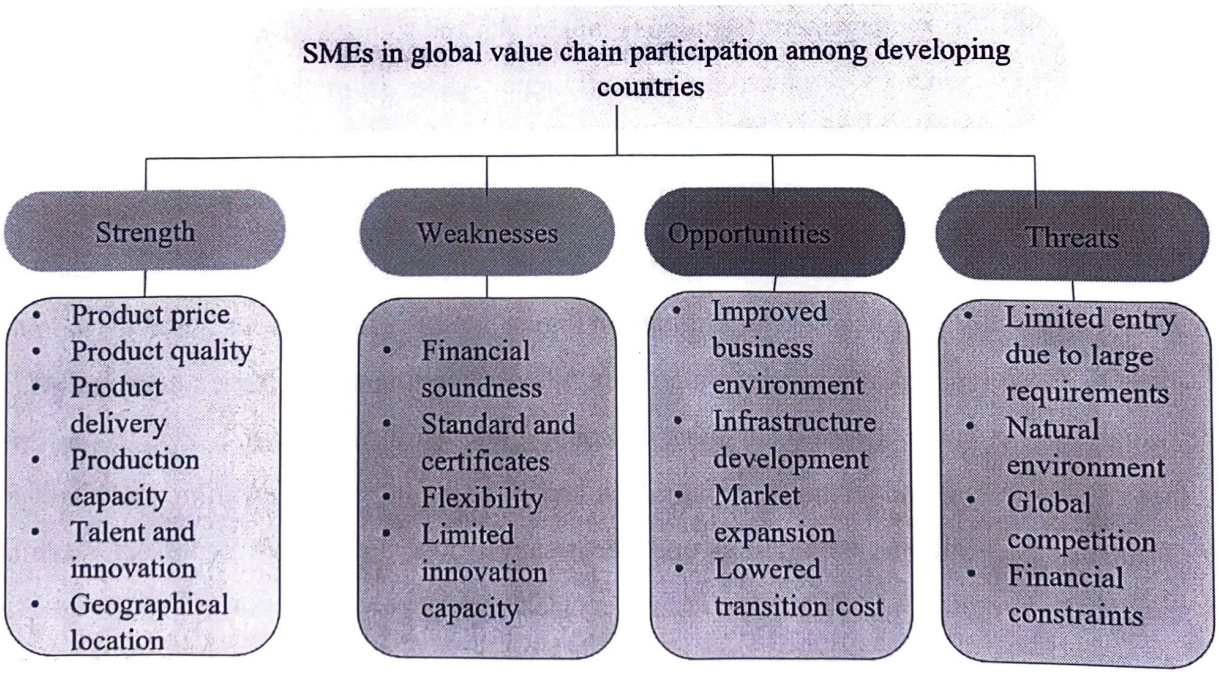
SMEs are the engine of growth in the developing economies. By participating in GVCs driven by lead firms, SMEs can enter foreign markets which would otherwise be difficult for them to penetrate and acquire a variety of knowledge (Cano-Kollmann et al., 2016; Saliola & Zanfei, 2009). Additionally, SMEs can access larger domestic and foreign markets through interaction with the lead firms. Given the strict requirement to uphold quality standards, there is greater information flow, management techniques, blueprints and technological know-how from the lead firms, which increases productivity and efficiency gains from the lead firm, thereby SMEs benefiting the SMEs. OCED (2008) emphasised that productivity increase, stability, and expansion of the business activities can lead to the firm's integration into GVC and periphery.

Indeed, pressure and constraints are associated with GVC linkages (De Oliveira et al., 2021), especially for SMEs, as highlighted in Figure 1. SMEs face various obstacles in integrating into GVC, such as international standards, regulatory requirements, financial constraints, limited foreign market connections, inadequate capital, high level of corruption, inadequate information, lack of managerial and technical capabilities, lack of technological innovation, trade barriers, lack of resources, high implementation and certification cost, limited awareness of sustainability standards, market competition etc. However, lack of access to finance is a significant barrier to SMEs' desire to participate in international production networks, given their limited capability to obtain capital from external sources (Kuzmisin & Kuzmisinova, 2016).

Additionally, achieving greater sustainability in the GVC has also become a major objective. Recent years have shown growing demand from the market, investors and regulators for better management and integration of sustainability considerations in GVC. The push towards greener business models and more responsible business conduct may lead to further shifts in GVCs, especially if carbon taxes come into effect (OECD, 2021). Creating circularity in trade and production chains is increasingly seen as a way to boost resilience and sustainability. The call for sustainability strengthens the business case for developing a circular production chain, enabling reuse, recycling, waste reduction, optimizing use and boosting productivity; additionally, it reduces the firm's exposure to risks, price volatility and supply disruptions, making value chains more resilient (Matarneh et al., 2024).

Sustainability presents a promising prospect for businesses; however, it is challenging due to the complexities of comprehending global objectives, trade dynamics, policies, and the simultaneous enhancement of three key social, environmental, and economic aspects. Furthermore, the sustainable value chain is intricately linked to the fundamental aspects of the entire firm, encompassing strategy formulation, product development, and relationship-building (Mol, 2015).

Figure 1: SMEs in Global Value Chain Participation Among Developing Countries



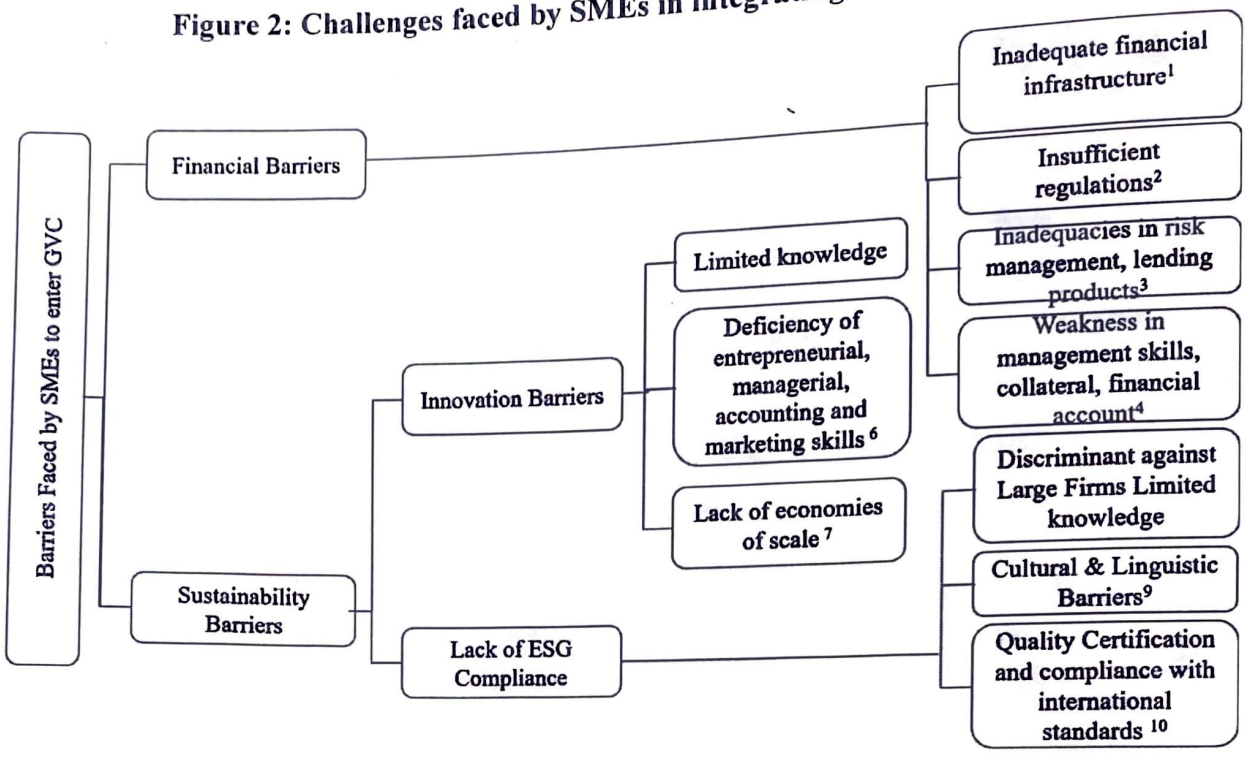
Source: Author's Own based on APEC, 2014 and Epede & Wang, 2022

1.1. Motivation

The study is motivated by the incipient literature on small firms' sustainability in the GVC and its dynamics in the context of developing countries. The World Bank, 2020 states that 15 per cent of the large firms drive the global phenomenon of GVC; nevertheless, small and medium-sized enterprises (SMEs) in developing countries are vanguards of employment and economic growth, as shown in Figure 1, highlighting hindrances faced by SMEs in the intricacy of transactions. First is the ability to plan transactions and production base capabilities, which impact GVC operations. Second, sustaining a transaction requires a complex transfer of information and knowledge, the systematic arrangement of this information, and suppliers' capabilities. Third, SMEs may struggle with information and knowledge transfer complexity, hindering their ability to sustain transactions in GVCs. Fourth, the ability to organise transactions efficiently and without transaction-specific investment is crucial, and SMEs face challenges. Fifth, the capabilities of SMEs and their suppliers concerning the transaction requirement can also pose constraints (Gereffi et al., 2005).

Additionally, SMEs face coherent policy and regulatory frameworks that address barriers to entry, technical regulations, compliance with standards, labour laws, taxation, and financial reporting. Informal SMEs may face obstacles in becoming formal businesses due to a lack of transparency and excessive regulatory requirements, which could affect their potential impact on local economic development. Moreover, asymmetric information is a challenge entrepreneurs and SMEs face, leading to a shortage of market knowledge. Additionally, they struggle to obtain assistance to improve their business management, record-keeping, marketing, and financial planning, which hinders their expansion and capacity to capture market share. Limited professional business management skills also restrict their research and development (R&D) and innovation in promoting productivity. Moreover, incorporating sustainability in a small or medium-sized company is probably easier and faster, as SMEs have simpler business structures (Gonçalves et al., 2020). A similar study is echoed by the WTO Global Value Chain Development Report 2023, Resilient and Sustainable GVC in Turbulent Times (WTO, 2023). Therefore, investing in innovative activities and following ESG compliance by SMEs in developing countries can enhance their participation and help sustain GVC.

Figure 2: Challenges faced by SMEs in integrating into GVC


Barriers Faced by SMEs to enter GVC
Financial Barriers
Sustainability Barriers
Innovation Barriers
Lack of ESG Compliance
Limited knowledge
Deficiency of entrepreneurial, managerial, accounting and marketing skills 6
Lack of economies of scale 7
Inadequate financial infrastructure1
Insufficient regulations2
Inadequacies in risk management, lending products3
Weakness in management skills, collateral, financial account4
Discriminant against Large Firms Limited knowledge
Cultural & Linguistic Barriers9
Quality Certification and compliance with international standards 10

Source: Author's own based on various references

2. Literature Review

2.1. Theoretical framework

2.1.1. GVC and SMEs in Developing Countries

In the post-World War II period, multinational enterprises grew, firm-level theories evolved, and the emerging pattern of international trade was missing in the classical trade theories. Michael Porter's diamond model of global trade explains a firm's competitiveness and differentiation, and the factors on international grounds are based mainly on the interrelatedness of factors. If the condition is favourable, firms tend to innovate new products continuously. This was followed by Melitz's groundbreaking study in 2003, which examined the exporting decisions of diverse firms within an industry. According to him, the decision to enter the international market depends on the potential operating profit gained in the global market and the fixed cost associated with the distribution of the products in that market. However, based on this idea, the rise in GVC is being actively reviewed.

Notably, the relationship between global and local trade and industry structures in developing countries regarding GVCs is significantly transforming (R. E. Baldwin, 2012). Since GVC offers opportunities to expand and yield maximum economic benefits (Cattaneo et al., 2013; OECD, 2013; UNCTAD, 2013; World Bank, 2020). Also, the less developed countries, based on their comparative advantages, can benefit from GVC in the development and industrialisation of the country (Cadestini et al., 2021; Thangavelu & Venkatachalam, 2021), through factors such as easy entry, a thriving business environment, symmetrical market information, and an efficient supply system contribute to market Access for SMEs in developing countries (Bandara, 2023).

2.1.2. GVC and Financial Access

To address the literature on firms' participation in GVC, a common consensus emerged that a firm integrated into GVC is involved in exporting and importing. Therefore, a firm's participation in GVC is determined by its decision to import and export. Where sunk costs play an essential role for firms willing to enter the foreign market (R. Baldwin & Krugman, 1989; Campa, 2004; Dixit, 1989; Roberts & Tybout, 1997) is well known. Sunk costs include fixed costs of research and development (R&D), market research, Product innovation, development of distribution channels, and advertisement, etc. (Greenaway et al., 2007; Secchi et al., 2016). These firms also face upfront costs for specific non-fixed (variable) costs such as wages, intermediate goods procurement, and land and machinery rent (Lu et al., 2018). Therefore, it is challenging for firms to access finance, and they will struggle to incur these costs. In this regard, research on trade and lack of access to finance predominantly concentrates on the firms' export behaviour. Firms need financial access to innovate, integrate, and sustain themselves in GVC.

2.1.3. GVC and Sustainability of Firms

Schumpeter & Redvers, 1934 described entrepreneurs as individuals responsible for processing new combinations of production, making innovation a critical element to differentiate them from other business owners (Chan & Lau, 2010). In recent years, the definition of innovation revolves around developing new ideas. (Damanpour & Gopalakrishnan, 2001), which leads to positive outcomes demonstrating time-cost-quality innovation variables over time (Martinez & Criado, 2011).

The literature on innovation emphasises that firms rely on external sources of innovation to generate value. This can enhance a firm's performance by increasing product quality and price

competitiveness, improving business processes, acquiring valuable knowledge, reducing costs and gaining a deeper understanding of the market. Thus, this enhances the firm's capacity to learn and innovate (Burlea, 2007; Najib & Kiminami, 2011).

Additionally, the significance of internal financial resources for their involvement in research and innovation (R&I) is emphasized by both behavioural and resource-based theories of innovation (Cyert & March, 1963; Jissink et al., 2019; López Navarro et al., 2023). According to the financial literature on innovation, the lack of financial access can impede firms' participation in research and innovation (Bond et al., 2005; Hall et al., 2016; Himmelberg & Petersen, 1994). Despite having limited financial resources, some firms, particularly small-sized ones, are shown by increasing studies to still engage in R&I (Berends et al., 2014; Bicen & Johnson, 2014; De Massis et al., 2017).

Moreover, while considering long-term sustainability, the ESG framework is based on three main theories. The first theory is the legitimacy theory, which involves the firm operating the standards, norms and principles of the society (Deegan et al., 2002). Parallelly encouraging investors to explore alternatives beyond traditional disclosure methods. The firms must consistently provide information about their sustainable business practices (Gupta and Goldar, 2006). Hence, global investors aim to expand their focus beyond conventional financial indicators by incorporating the significance of value and ESG reporting into their portfolio management strategies.

The second theory, the stakeholder theory, integrates the legitimacy theory and stakeholders' values. This theory tackles many key issues related to the stakeholders' perspectives on their well-being (Freeman & McVea, 2005; Lokuwaduge & Heenetigala, 2017). ESG disclosures help improve the firm's reputation by addressing the information imbalance among stakeholders. Stakeholders acknowledge ESG-managed firms through investment, consumption, mutual trust, loyalty, and other long-term commitments (Jaggi & Freeman, 1992). Neo-classical theory dictates that a firm should participate only in activities that create value for stakeholders. Meanwhile, stakeholder theory, 1984 posits that firms must take responsibility for their stakeholders, such as employees, suppliers, and local communities (Freeman, 1984).

In formulating strategies for achieving long-term social and competitive benefits, the third philosophy of the ESG framework is the resource-based view theory (RBV). According to this theory, resources are valuable, hard to replicate, and irreplaceable. Organizations use resources to

achieve strong economic performance and a competitive edge. The resource-based view states that implementing sustainable strategies such as ESG in resource selection and production results in a durable and successful business model in the long run (Bhandari et al., 2022).

2.2. Empirical Literature Review

This section shows the theoretical and empirical literature along with the study's conceptual framework on the role of sustainability parameters in general and innovation and ESG compliance subject to financial access, particularly in SME firms in developing countries, and it varies across different countries.

2.2.1. Empirical Evidence on GVC and Developing Countries' SMEs

It is empirically evident that developing countries in GVCs create 'factory economies', while developed countries function as 'headquarters' economies in the GVC activities (Stöllinger, 2016). Participation in GVC can occur through either backward or forward linkages (Koopman et al., 2014), depending on the orientation of the firm or economies (Kummritz, 2016). Moreover, as highlighted previously, most economies are built on the foundation of SMEs (Kuzmisin & Kuzmisinova, 2016). With the rise in interest in the integration of SMEs in GVC due to the emergence of new business organisations that are significantly influencing operations in numerous industries within countries (Kristensen et al., 2015; Kuzmisin & Kuzmisinova, 2016; Tajoli & Felice, 2018). SMEs in developing countries benefit from participating in GVC. Research indicates that increasing GVC participation leads to industrial upgrading, with a rise in manufacturing GVC corresponding to an increase in the high-tech sector's share (Wiryawan et al., 2022).

Furthermore, GVC participation contributes to productivity growth. Access to finance is crucial in helping SMEs in developing countries integrate into Global value chains (GVCs). Since SMEs are vital contributors to economic growth and employment in these regions (George Okella Candiya Bongomin et al., 2017; Nyanzu & Quaidoo, 2017; Thathsarani et al., 2023)(George Okella Candiya Bongomin et al., 2017; Nyanzu & Quaidoo, 2017; Thathsarani et al., 2023), with access to finance being a significant constraint for their functioning and growth (Nguyen, 2014; Ramalho et al., 2018). A better financial structure enables firms to enter the international market. Nevertheless, as suggested by (Humphrey & Schmitz, 2002; Kuzmisin & Kuzmisinova, 2016; Morrison et al., 2008), SMEs face challenges in integrating into the GVC and face constraints in

capturing the advantages of GVC integration. They face challenges related to computerisation, such as poor financial resources, low expertise, and high infrastructure cost (Kalumendo, 2022); these challenges arise due to international marketing constraints, global competition, supply side limitations, and financial constraints (Dovis & Zaki, 2020; Lwesya, 2021). Adopting sustainability standards also poses challenges for SMEs, including high implementation costs, certification costs, and lack of awareness (Sommer, 2017).

It is evident from the study of 119 developing countries performed using WBES that access to finance is the most significant obstacle that occurs because of the high cost of borrowing and lack resulting to hindrance in the growth along with size, age, growth rate of the firm, ownership the firm (Wang, 2016). Using the prowess of CMIE firm-level from 2006-2016 for 888 MSMEs, Reddy (2020) Shows that financial constraints restrict the GVC participation of small firms in India. These challenges are likely to arise in developing countries due to the existence of underdeveloped financial markets and institutions, which reduce the firms' investment in innovation and hinder the economic growth of the country (Chundakkadan & Sasidharan, 2019; Kumarasamy & Singh, 2018).

2.2.2. Empirical Evidence on GVC and developing countries SMEs and financial access

Financial constraints pose a significant barrier for SMEs seeking to enter and sustain in GVC. Researchers highlight that formal constraints in accessing finance hinder firms' growth, and small firms are more vulnerable to these limitations (Mensah et al., 2023). Although access to finance significantly aids SMEs in integrating into GVC. Research from various contexts highlights the crucial role of the financing system in supporting SMEs' growth and development, ultimately enhancing their participation in GVC. However, studies emphasise that SMEs face challenges in accessing credit due to collateral requirements, high transaction costs, limited information, and discriminant large firms (Gyimah et al., 2022; Nkansah-Sakyi, 2023). Furthermore, enormous sunk costs incurred to export restrict a firm's ability to enter the global market (B. Bernard & Jensen, 2004).

Studies from Ghana and Vietnam emphasise the positive impact of financial accessibility on SMEs' productivity and growth (Frimpong et al., 2022; Gyimah et al., 2022; Mensah et al., 2023). In Ghana, access to credit referencing information enhances the relationship between lending practices and SMEs' access to finance, ultimately improving financial access and

eventually integrating them into the formal banking system (Gaing et al., 2019). Additionally, Vietnamese firms have access to bank loans. Overdraft facilities experience significant improvements in total factor productivity (TFP), highlighting the direct link between financial accessibility and firm productivity, which is essential for sustainability and growth within the GVCs (Mohammed, 2022).

Another strand of empirical studies shows that financial constraints have a detrimental impact. Most studies indicate that firms experiencing significant financial constraints are unlikely to allocate funds to research and development and are reluctant to engage in innovation. (Aghion et al., 2012; Ayalew & Xianzhi, 2019; Chundakkadan & Sasidharan, 2019; Savignac, 2008).

2.2.3. Empirical Evidence on GVC and sustainable development

Sustainability is a multi-faceted concept (Escrig-Olmedo et al., 2019; Garc´ ıa-P´ erez-de-Lema et al., 2021). Innovative and ESG are the most widely recognised measures of sustainable development. SMEs may substantially impact achieving the "Sustainable Development Goals" despite being smaller (Sinkovics & Sinkovics, 2021).

Research explores the influence of innovative activity, profitability and financial stability impact on SME's entry into the international market and highlights the various obstacles related to intellectual capital, financial constraints, and regulatory barriers (Gupta & Chauhan, 2021; Hortinha et al., 2011; Rutashobya & Jaensson, 2004). Using the firm-level data, the study shows that technology adoption for innovation is limited in developing countries. However, firms' participation in GVC is positively and significantly associated with adopting Industry 4.0 technologies (Delera et al., 2022). Highlights that gain from integration in GVC are greater for the small firms than the large firms, and the backward integration boosts the productivity of the small firms in the GVC (Boffa et al., 2021). Studies highlighted that green innovation, transformational leadership and organisational innovation positively impact the SMEs' sustainability and performance within GVCs (Baeshen et al., 2021; Zhu & Huang, 2023).

The previous empirical researches highlight a positive relationship between innovative activities and the export intensity of the firms (Bierut & Dybka, 2021; Kim & Hemmert, 2016; Rodil et al., 2016), while some show either a bidirectional causal relationship or no relationship

among these factors respectively, nevertheless these papers also paper miss sustainable innovation (Cassiman et al., 2010; Filipescu et al., 2013).

On the other hand, research related to ESG emphasises that sustainability standards can empower SMEs to integrate into GVCs and the international market. However, cost and lack of awareness hinder their adoption (Hu et al., 2022). Extant literature investigates SMEs' internationalisation within developed and developing countries, highlighting that developing countries initially focus on unsustainable contextual factors and later embrace sustainable universal factors in their internationalisation (Coldwell et al., 2022). SMEs may make a substantial impact in achieving sustainability. While analysing the Chinese firms in Latin America, Asia and Africa regarding ESG standards and sustainability, it was found that they face increasing pressure to incorporate and maintain ESG standards in their value chain operations (Morris, 2023). Studies show that firms' ESG disclosure helps reduce risk, promotes economic incentives, enhances customer loyalty and corporate reputation, and enhances sustainable production through the value chain (Do et al., 2023; Saini et al., 2022). Innovation activities and sustainability enhance entry to foreign markets (Teplova et al., 2022).

Notably, in return, GVC participation positively influences firms' adoption of energy-related sustainable practices. However, this impact varies based on firm characteristics, capabilities, financial resources, and institutional qualities (Agostino et al., 2023). GVC plays an essential role in the environmental sustainability of the developing market (Golgeci et al., 2021).

However, extant empirical literature highlights the role of financial access, sustainability, innovation, and ESG individually; nevertheless, an integrated study to understand the impact of financial access in accelerating the integration and sustainability of developing countries' SMEs in GVC stands out.

3. Research Gaps

It is evident from the previous literature that few studies have addressed the role of access to finance and stability compliance in enhancing GVC participation of SMEs in developing countries (Kumarasamy & Singh, 2018; Masdupi et al., 2024; OECD, 2022; Teplova et al., 2022). A study addressing the interplay of access to finance and sustainability of the possibilities to integrate into GVC using the World Bank Enterprises Survey stands missing (Elshaarawy & Ezzat, 2022; Reddy

& Sasidharan, 2024; Teplova et al., 2022). Moreover, previous studies lack focus on SMEs' participation in GVC and its contribution to sustainable development goals (Biurrun & Álvarez, 2023; Navarrete et al., 2020; Shepherd, 2016). Moreover, using scientometric analysis, (Jacob et al., 2023) highlighted that a considerable study on GVC for sustainability is being done in most developed nations. In contrast, studies in developing countries stand missing, pointing to the dearth of literature.

Hence, to address these gaps, the proposed study is an attempt to investigate the role of access to finance and sustainability compliance in enhancing SMEs' integration in GVC with regard to developing countries using the World Bank Enterprises Survey data. To the best of our knowledge, A study on how access to finance and sustainability impacts SMEs' ability to join GVCs has not been carried out.

Additionally, our study will map ESG indicators with WBES and show their contribution to sustainable development goals. With this, by addressing the variability of the performance of the SMEs across different regions, our study will provide policy perspectives for the regions where firms face challenges in integrating into GVC by critically evaluating SMEs' participation in GVC among Developing countries.

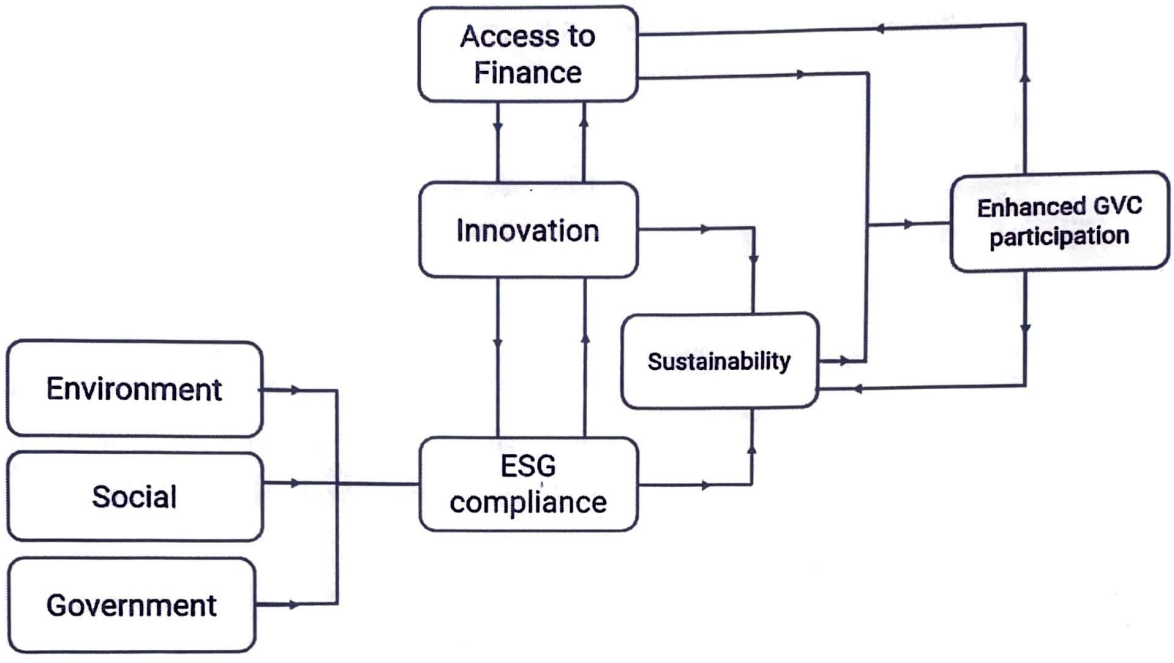
4. Conceptual Framework

Based on the theoretical and empirical literature review, the research gap has been identified that motivated the development of the conceptual framework, given the major challenges SMEs face, as shown in Figure 2. It is essential to understand that firms that are willing to integrate into GVC can increase their participation by following sustainability compliance by fulfilling the Environmental, social and governance parameters and innovating themselves that will enhance the likelihood of the SMEs entering GVC where access to financial is an essential intermediating factor for the firms to incorporate sustainability parameter in its working.

However, as exhibited in Figure 3, SMEs leverage financial access but struggle to sustain in the long run, making it challenging to integrate with GVC; stand-alone access to finance cannot help firms integrate into GVC. A few key constraints that restrict them are the inability to meet quality standards, cultural and linguistic barriers, discrimination against large firms, lack of information,

poor market access, and inadequate business networks, for instance, SMEs in oil and gas, chemical, metal and mining, and cement producing sectors.

Figure 3: SME's integration towards GVC through access to finance, innovation and ESG compliance



Source: Author's own

On the other hand, SMEs adopting sustainability in discrete face problems to meet financial needs in the long run, making it difficult to sustain in GVC; for example, renewable energy sector SMEs, textile and apparel, cottage industries, Agri-food sector, electronic and electrical equipment by minimising e-waste by using conflict-free minerals. Whereas, there are some sectors, for example, banking, bio-gas, cottage industry, etc., where SMEs cannot integrate into the global market and are limited to the domestic market, possibly due to high domestic tariffs, low productivity, and poor institutional support.

Nevertheless, the idea is to investigate the likelihood of SMEs having financial access and adapting the sustainability parameters to integrate with GVC, offering the SMEs access to the international market, allowing the penetration of information and technology from large firms to SMEs, making them sustain in GVC.

5. Research Questions

5.1. How do small firm's (SMEs) financial access and sustainability affect their likelihood of integration in global value chains (GVCs) in the context of developing countries?

5.2. Do the relationships among sustainability, financial access, and global value chain participation of SMEs vary across different regions within developing countries?

6. Research Objectives

6.1. To investigate the factors determining the GVC participation of SMEs in developing countries.

6.2. To examine the impact of financial access on a firm's sustainability of developing countries' SMEs.

6.3. To examine the impact of a firm's sustainability on GVC participation in developing countries.

6.4. To identify whether a firm's sustainability and financial access influence GVC participation in developing countries.

6.5. To examine the level of SME's engagement in GVC participation due to financial access and sustainability across different regions.

7. Research Methodology

7.1 Data and Methodology

The proposed research uses pooled cross-sectional firm-level data collected during wave II from 2006-2019 from the World Bank Enterprises Survey (WBES) database to analyse the effect of a firm's financial access and sustainability on its GVC participation. Its secondary database uses standardised procedures for conducting surveys and collecting data from private-sector manufacturing and service firms, allowing cross-country comparisons. It collects information using stratified sampling (Diether, 2020); related firms' attributes in different aspects, including international trade, innovation, cost of inputs, access to finance, number of workers, bribery,

competition, taxation, sales informality, business-government relations, and performance measures. World Bank Enterprises Survey covers East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North America, South Asia, Sub-Saharan Africa, High Income: non-OECD, High-income OECD.

To trace the firms' sustainability, we will consider the ESG factors and innovative activity based on a study conducted by (Teplova et al., 2022). The previous studies have used, logit (Rodil et al., 2016; Gergo-Planer et al., 2020) or probit model (Belitz & Lejpras, 2016; Matsuzaki et al., 2021) for analysis and to tackle the endogeneity problem, have considered the extended probit regression model (Elshaarawy & Ezzat, 2022) or the Heckman model (Teplova et al., 2022).

With SMEs' participation in the global value chain as dependent variables. GVC participation can be captured through the following variables such as backward and forward linkages (proxy: share of export and import) (Montalbano et al., 2017), WWID[1] (expecting a negative relation between WWID and GVC participation (Reddy & Sasidharan, 2020). To capture access to finance, we consider the share of foreign ownership in the equity capital of the company, the share of the state in the equity capital of the company, the share of working capital borrowed from banks, the share of working capital borrowed from the non-bank financial, share of working capital financed by issuing bonds (Teplova et al., 2022), for innovation plan to consider objective metrics[2] Moreover, ESG will be captured from (Teplova et al., 2022). In addition, we will consider some country-level and firm-level controlled variables such as the firm's size, age, number of employees, etc.

7.2 Inclusion and Exclusion

Our study included firm-level data covering private sector SMEs with small-sized firms (5-19 employees) and medium-sized firms (20-99 employees) having more than 1 per cent of private ownership located in main urban centres of the developing countries that are willing to enhance financial accessibility and adopt sustainable business practices to engage in global value chain effectively. The main goal is to enable SMEs in developing nations to join value chains and advance sustainable business practices and financial inclusion. We have excluded and developed

[1] *WWI* denotes the Whited and Wù (2006) index

[2] Objective Metrix: *(Garc'ıa-P'erez-de-Lema et al., 2021), (Davcik and Cardinali, 2021), (De et al., 2020), (Teplova and Sokolova, 2019), (Teplova and Sokolova, 2019)*

and least developed countries, large firms with private ownership (100 or more employees), government-owned firms, agricultural extractive firms within developing economies.

8 Scope of the Study

Since SMEs are crucial players in driving economic growth, innovation, and employment. Understanding how to integrate SMEs in GVC better can lead to more robust economic development and job creation. Access to finance and sustainable practices can enhance the competitiveness of SMEs, providing insights to improve SMEs' position in the global market through fostering innovation and technological advancement. Additionally, adherence to sustainability principles is increasingly becoming a prerequisite for participation in GVC, showcasing the importance of sustainable practices and promoting sustainable development.

This study will help policymakers by providing evidence-based research to design effective policies and offering valuable recommendations to create a supportive environment for SMEs, helping them overcome financial barriers and adopt sustainable practices. This will benefit many stakeholders, including SMEs, financial institutions, policymakers, and sustainability advocates, by providing actionable insights and practice guidelines for enhancing SME integration in GVCs.

Additionally, it would help develop a comprehensive set of policy recommendations that would help address and review the current national and international policies aimed at enhancing SME participation in GVC by identifying gaps, weaknesses, and areas for improvement in these policies. Nevertheless, engagement with the key stakeholders ensures practical relevance and effectiveness.

9 Expected Outcome of the Study

Examining the interplay between a company's sustainability initiatives, financial accessibility, and involvement in global value chains among developing nations is anticipated to yield various results. First and foremost, in this research, we will map the ESG compliance to WBES data to understand its contribution to sustainable development goals.

This study will directly impact SDG8 (Decent work and economic growth) as access to finance is a significant barrier for SMEs that are willing to integrate into the GVCs; by enhancing the possibilities of accessing finance, SMEs can invest in technology, innovation, and skilled

labour leading to productivity enhancement. The infusion of capital into SMEs can help foster innovation and infrastructure development, which are critical for integrating into the GVC; hence, SDG9 (Industry, Innovation and Infrastructure) emphasises building robust infrastructure, fostering innovation, and advancing inclusive industrialization. SMEs that adopt sustainable practices can differentiate themselves in the market and meet the growing demand for environmentally responsible products, directly contributing to SDG 12 (Responsible Consumption and Production).

It is considered an indirect contribution to sustainable development goals. By enabling SMEs to grow, access to finance helps reduce poverty, thereby contributing to SDG 1 (No poverty). SMEs with access to finance and the ability to implement sustainability into their operations can mitigate the climate risk that poses a significant risk to the global supply chain and fulfil SDG 13(Climate action). To enhance SMEs' participation in GVCs, supportive policy frameworks are necessary, and SDG 17 (partnership for the goal) focuses on the need for global partnerships to achieve sustainable development. The research is expected to provide policy insights that facilitate access to finance, and it will likely advocate for international cooperation and public-private partnerships to Support SMEs' integration into the GVCs.

Additionally, it clarifies how businesses in developing nations can use sustainable practices to boost their competitiveness in global value chains, potentially increasing their market share and profitability. Second, the study looks at how financial access and sustainability initiatives relate to each other to find ways businesses can get beyond financial obstacles that stand in the way of adopting socially and ecologically responsible practices. Furthermore, a thorough examination of the functioning of SMEs in global value chains will shed light on the best ways for developing-nation businesses to incorporate themselves into these networks and promote development and economic expansion.

This research aims to provide scholars, practitioners, and policymakers with insightful advice and practical suggestions for advancing inclusive economic growth and sustainable development in developing nations through improved financial access, higher participation in global value chains, and improved firm-level sustainability practices.

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SHORT SYNOPSIS

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ABSTRACT

In recent years, there has been a growing interest in integrating SMEs into global value chains (GVCs) to enhance their competitiveness and sustainability. However, SMEs in developing countries face numerous challenges that hinder their participation in GVCs, including limited access to finance and inadequate sustainability practices. Using the firm-level data from the World Bank Enterprises Survey, the study assesses the present level of developing countries' SME participation in GVCs. It identifies the key barriers preventing SMEs from fully integrating into global value chains. The study will also examine the impact of access to finance on SMEs' ability to engage in GVCs and investigate the role of sustainability parameters, such as